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Roots of inequity: How the implementation of REDD+ reinforces past injustices

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ABSTRACT

The extent to which REDD+ initiatives should be a mechanism to address poverty and provide other co-benefits apart from carbon storage, is hotly debated. Here, we examine the benefit distribution policy and practice of a prominent REDD+ project in Kenya with the aim of understanding the extent to which it addresses equity. We reveal that while the project design was attentive to equity concerns in distributing benefits amongst the project implementer, landowners and the wider population of small-scale farmers and pastoralists in the area, in practice, the initial flow of benefits were concentrated in the hands of a few. This was because developments in land tenure since pre-colonial times had involved processes of dispossession and elite capture, enabled by colonial and post-colonial land policies that left the majority of local people with little or no land entitlement. As the distributive policy of the project maps onto the existing unequal land distribution, it reinforces inequality. By illustrating how current, well-intended, REDD+ efforts inadvertently come to entrench a long process of dispossession of marginalized people, we call attention to the pivotal importance that historical context plays in discussions of equity and social safeguards related to implementing REDD+ initiatives and related policy.

1. Introduction

Reduced emissions from deforestation and forest degradation plus forest conservation, sustainable management of forests and enhancement of carbon stocks (REDD+) aims to cut carbon dioxide emissions from forest land, thereby mitigating climate change (Angelsen and Brockhaus, 2009). The implementation of REDD+ is proposed at three scales: national, subnational and nested approaches (Karsenty et al., 2014; Minang and van Noordwijk, 2013). In 2007, the Bali Action Plan called for REDD+ pilot and demonstration activities in preparation for the national and nested scales (UNFCCC, 2007). Since then, many actors, including the private sector and state, have initiated many REDD+ projects. This study concerns a private sector REDD+ intervention at a subnational level.

Project level activities were encouraged under the Bali Action plan (UNFCCC, 2007; Dec 2/CP.13) and the Cancun agreements (UNFCCC, 2011; Dec. 1/CP.16) as part of REDD+ readiness and results-based demonstration approaches towards national level implementation. Under the private sector, REDD+ is promoted as a cost-effective tool that can generate economic rents, while reducing global CO_2 emissions at minimum cost (Bernard et al., 2012; Karsenty et al., 2014). Efficient reduction in carbon emission has thus been the raison d'être of REDD+ (Di Gregorio et al., 2013). A hotly debated issue surrounding REDD+ is how much such measures should adhere to social safeguards, address equity concerns and provide other co-benefits beyond carbon storage, such as biodiversity conservation and poverty alleviation (Brown et al., 2008; Cotula and Mayers, 2009).

The Cancun agreements reached during COP 16 in Mexico in 2010 included social safeguards aimed at addressing various equity concerns under REDD+. Specifically, Appendix 1 of the agreements state that REDD+ "must support respect for knowledge and rights of indigenous people and forest dependent communities" (UNFCCC, 2011; Dec. 1/CP.16, Appendix 1). Second, the guidelines stress the need to enhance other social and environmental benefits, including poverty alleviation. Third, they stress the need for "full and effective participation of relevant stakeholders, in particular indigenous people and local communities" (UNFCCC, 2011). These safeguards underscore a commitment towards procedural and distributive aspects of equity from international to local levels under REDD+ mechanisms (Di Gregorio et al., 2013), but leave distributive equity

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to country driven social safeguards, aligned to national development priorities.

A key issue in implementing REDD+ initiatives is how they act upon a pre-existing situation of inequality amongst people living in or near to forests (Di Gregorio et al., 2013; Peskett et al., 2011). The question then becomes whether and how current REDD+ efforts acknowledge and seek to include existing structural elements of inequality as part of enacting social safeguards (McDermott et al., 2013). If they do not do so effectively, then REDD+ efforts may come to, albeit inadvertently, entrench structural inequality while only offering token benefits to marginalized people.

As REDD+ continues to unfold in practice it is important to take stock of these aspects. Accordingly, this study focuses on how one of the world's most prominent REDD+ projects, the Kasigau Corridor REDD Project (KCRP) in Kenya, addresses equity among project participants and residents in and around the area in which it operates. Specifically, the research addresses two questions:

1. How has the project addressed equity in benefit distribution?
2. What is the role of the historical context in shaping equity in the distribution of REDD+ benefits?

The paper is structured so that the next section outlines the research methods. We then explain the analytical framework which links resource tenure with equity in access to benefits. The results from analysis of the KCRP case are then presented, followed by discussion of their implications. The concluding section incorporates policy recommendations.

2. Background to the case study area

KCRP is located in Taita Taveta County, Republic of Kenya. The area lies approximately 150 km northwest of the coastal city of Mombasa in between Tsavo East and Tsavo West national parks (Fig. 1). The climate is semi-arid (annual rainfall of 300–450 mm; altitude is 450–1000 m) with vegetation consisting of a composite of forests types, with Acacia-Commiphora dominant. There are remnant patches of montane forest, especially in the hilly parts.

The population of the area is comprised mainly of the Wataita who are subsistence agriculturalists practicing crop farming, livestock keeping and small scale trade. The second largest group is the Waduruma, who have immigrated from the neighboring Kwale County over a long time period. Other minor ethnic groups in the area such as the Wakamba and Wakikuyu are found mainly in the main settlements, such as Voi.

Fig. 1 illustrates the mosaic of tenure arrangements, including various categories of ranches (all pink, blue and orange polygons), settlement areas (polygons 32, 33 and 34), large scale sisal estates (polygons 29, 30 and 31) and protected areas (National Parks) that exist within the study area. The settlement areas comprise numerous villages, and are excluded from carbon accounting by the project. According to the evidence accumulated through colonial and post-colonial maps, much of the present settlement areas occupy land previously designated as native reserves by the colonial government (KLC, 1934; pg. 2722–2725; Nazzaro, 1981; Verbi, 1939). For instance, Dabida and Sagalla, allocated as reserves for native settlement by the colonial government in the early 20th century, were located where current settlement areas 34 and 33 now are. The Maungu-Buguta settlement scheme, (part of polygon 32) derives from post-colonial settlement.

Ranches were established during the 1960s and 1970s for the Wataita[1] to use for cattle production, but legal ownership was concentrated amongst a small Wataita elite, as discussed below. Ranch owners have long-term, renewable leases issued by the government, usually for 33, 66 or 99 years, or whatever remains on the lease at the time of acquisition. According to Ministry of Lands records, two ranches Amaka, and Ndara B (polygons 11 and 24) were freehold. Cattle production was discontinued on most ranches in the 1980s and 1990s largely because of unfavorable international market conditions, mismanagement resulting in over grazing and degradation, and natural calamities such as drought (Njogu, 2004). The collapse of cattle ranching left most ranches indebted with loans acquired from the Agricultural Finance Corporation to run their ranching activities (Njogu 2004; Veit, 2011). A few ranches still raise cattle for meat production today, but on a very small scale (e.g., Kasigau ranch, polygon 4). Most ranch owners are absentee landowners, residing in urban areas within or outside Taita. Some ranches are rented out to camel-keeping pastoralists of Somali descent for minimal fees; others are left unused. The absence of major economic activity on ranches, combined with absenteeism, paved the way for progressive encroachment by people from the neighboring settlement areas practicing slash and burn agriculture and charcoal production.

The KCRP commenced in 2008–2009 with phase I (polygon 9) covering a single privately owned ranch of about 30,000 ha known as Rukinga. Phase II followed in 2010–2011 drawing in 13 ranches, covering 169,731[2] ha. Establishment of Phase III was ongoing while data for the present study were being collected; involving a number of the remaining ranches and was anticipated to extend over approximately 190,000 ha (Fig. 1) possibly including a non-contiguous block in the nearby Shimba hills. After their establishment, the phases run concurrently, anticipated to continue for a period of 30 years. Carbon benefits through the sale of credits from Phase I accrue only to the owners of Rukinga ranch; they are not distributed to the wider community. The present study focused on Phase II of the project, comprising the community owned ranches and disbursal of carbon revenue to communities in the settlement areas.

The 13 ranches under Phase II had various forms of ownership: five of the ranches were under individual ownership (i.e., owned by one or two persons); four were owned by private companies (PCs) limited to 50 shareholders, and four under Directed Agricultural Companies (DACs) with membership based on share ownership (Table 1). Individually owned and private company ranches were legal entities with full rights of use and exclusion of their property, while DACs were communal ranches, owned mainly by ethnic Wataita, based around kinship ties and traditional land rights, under the directorship of a representative from the Ministry of Agriculture. The decline in revenue from 2010 to 2011 represents a reduction in sale of carbon credits in the voluntary markets.

In addition, two small parcels of communal land in Marungu hills (approximately 1019 ha) and a wildlife corridor (approx. 156 ha) also form part of the project, and the revenue generated from sale of carbon from these areas is distributed to the Marungu community through a committee.

The project proponent is Wildlife Works, an American based Private Corporation, founded in 1997 by Mike Korchinsky (WW, 2014b), who is also the majority shareholder and director of Rukinga ranch, which formed Phase I of the project. Wildlife Works has its Kenyan subsidiaries; Wildlife Works Sanctuary (WWS) that deals with the actual project implementation and sale of carbon;

[1] Ranches were also established elsewhere across the country, particularly in areas occupied by pastoralists, such as the Maasai (Mwangi 2005; Veit, 2011). This was under the Kenya Livestock Development Project (KLDP), supported by the government and financed by international donors.

[2] The total area of area under ranches is 168,556 ha; the total area of the ranches plus the communal land under Marungu Hills (1,019 ha) and the wildlife corridor (156 ha) is 169,731 ha.

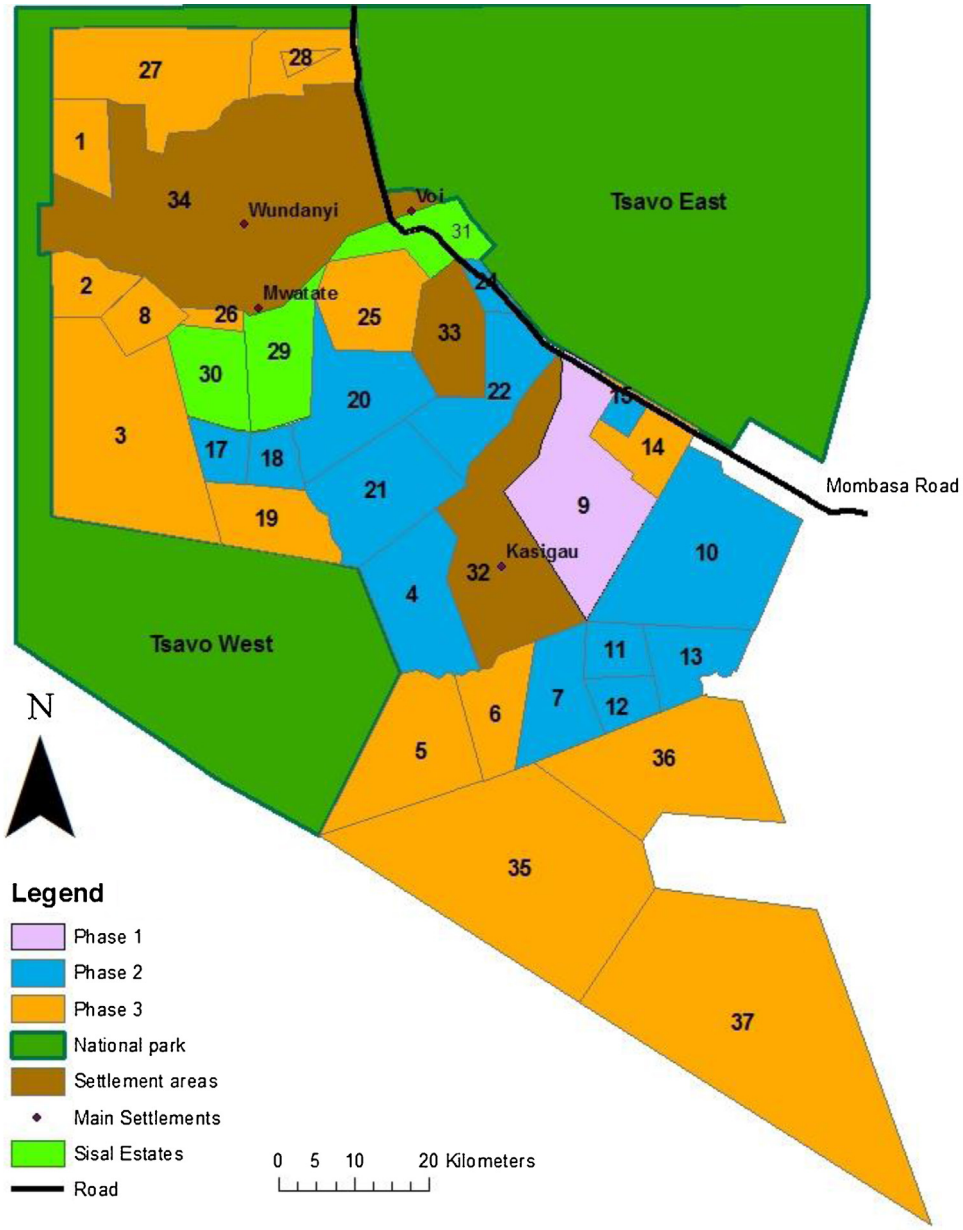

Fig. 1. Map of the study area showing phase I, phase II and proposed phase III polygons comprising the ranches included in each phase of the project, settlement areas, sisal estates and protected areas. (For interpretation of the references to color in the text, the reader is referred to the web version of this article.)

Table 1
Ranches involved in KCRP phase II.

Name of ranch	Year of registration	Form of land ownership	Size (ha)	Revenue received from sale of carbon credits (US $)	
				Year 2010	Year 2011
Taita	1964	Private company	35,612	294,690	143,382
Sagalla	1967	Private company	17,402	126,544	61,570
Maungu	1970	Directed Agricultural Company (DAC)	21,619	210,545	102,441
Mgeno	1972	DAC	21,232	210,410	107,240
Ndara	1971	Individual (1 owner)	1,835	18,225	8,867
Kasigau	1971	DAC	21,186	171,699	83,540
Wangalla	1968	Individuals (2 owners)	2,024	12,648	6,154
Choke	1968	Individual (1 owner)	5,076	38,948	18,950
Amaka	1972	Individual (1 owner)	5,998	38,378	18,673
Kutima	1974	Individuals (2 owners)	5,076	49,304	23,989
Washumbu	1972	Private Company	14,501	90,782	44,170
Dawida	1973	Private Company	4,047	43,005	20,924
Kambanga	1974	DAC	12,948	107,428	52,269
Totals			168,556	1,412,606	692,169

Sources: Taita Taveta District Annual Report (1972); Interviews with the chairman of the ranchers association; KCRP revenue records.

while Wildlife Works Carbon Trust (WWCT) deals with distribution of benefits to local communities involved in the project. WWCT works with other local level institutions, referred to as Location Carbon Committees (LCC) and Community Based Organizations (CBO), to facilitate carbon revenue allocation among various community projects (Chomba, 2015).

The project is verified under the two leading international standards: Verified Carbon Standards (VCS) and Climate, Community and Biodiversity Alliance (CCBA). The two standards have complementary requirements: VCS focuses on the rigor of carbon accounting and CCBA on social and environment aspects associated with the development of the project (Kolmuss et al., 2008). The project is certified at GOLD level, the highest level of certification under CCBA.

It is estimated that the project will avoid emissions of over 48 million metric tonnes of CO_2 over the project period of 30 years (KCRP, 2011). The emissions are avoided through reduced deforestation and forest degradation, achieved by protecting areas mainly from slash and burn agriculture and charcoal production. The project provides financial incentives, through distributing revenue from the sale of carbon credits back to communities, landowners and to project implementation. The project also employs approximately 400 people, mainly from the local area, in running its operations, including an export-processing factory for clothing. The carbon is sold on the voluntary market (see Kolmuss et al., 2008).

3. Methods

3.1. Data collection and analysis

Intensive fieldwork was carried out from March 2013 to April 2014 by the first two authors as part of their respective PhD research. In addition, two research assistants conversant in local languages and customs were employed to assist with data collection. Mixed methods approaches were employed to capture three analytical categories of primary interest: contemporary tenure arrangements, distributive equity and historical evolution of tenure.

Background information was obtained through a review of project documents prepared by the KCRP for the purpose of international validation and accreditation of carbon credits through the CCBA and VCS standards, as well as project websites (KCRP, 2009,2011; WW, 2014a,b). This focused on identifying which actors received what kind of benefits; as well any stated policies on tenure and benefit distribution. Financial records on carbon revenue allocation amongst various actors in the project were also gathered.

Data on contemporary tenure arrangements and benefit distribution by the project were collected through semi-structured interviews and focus group discussions (FGDs). A total of 34 semi-structured interviews and five FGDs, involving a further 46 people, were carried out. Four groups of informants were approached: (i) KCRP project staff, (ii) ranch owners (for ranches in individual and partnership ownership), (iii) committee members (for private company ranches and DACs), and (iv) residents of the settlement areas. Interview respondents were selected through snow balling (Noy, 2008), where initial informants suggest others of the same category, a technique we applied particularly to reach the ranch owners who were difficult to approach without being introduced by other ranch owners.

In addition, a semi-structured questionnaire was administered across 120 randomly selected households in two out of the five locations: Marungu and Kasigau. The questionnaire aimed at providing descriptive data on land ownership and ownership of shares in various forms of companies, and how this conditioned access to project benefits. The criteria for selecting the two locations were: (i) they contained all four categories of tenure arrangements (small holders, and the three types of ranches); and (ii) they were ethnically diverse and hence provided access to ethnic groups other than the Wataita present in the project area. The surveys aimed at acquiring a general description of the relationship of people to land and project benefits in the area, rather than to make statistical comparisons across sites. The questionnaire was pretested and reduced to a set of 15 key questions, which took approximately 45 min to administer. It was administered to household heads, but in practice, many men were not at home and so their wives were interviewed resulting in almost equal numbers of male and female respondents. The questionnaire data were analyzed using SPSS 20.

To capture the historical evolution of land tenure, claims, conflicts and dispossessions over time, historical records and maps were also gathered from the Kenya National Archives, Ministry of Lands and Taita Taveta County offices. These included: Taita Taveta District development plans, annual reports, research reports, colonial and post-colonial administrative reports and maps, as well as the Carter/Kenya Land Commission report 1933–1934's section on Coast province, Taita Taveta district.

The notions of equity addressed in this paper were primarily based on inter-household and community distribution of benefits. Intra-household dynamics, particularly with respect to gender are addressed elsewhere (Kariuki and Birner, 2015). Ethical requirements were taken into consideration by ensuring full explanation of the purpose of the study to all respondents. Respondents were then asked whether or not they wished to participate. Considering the overall sensitivity of issues under study, names of individual respondents were anonymized in the reporting of results.

3.2. Analytical framework

To analyze equity, we draw on the framework developed by McDermott et al. (2013), which distinguishes between three dimensions of equity: contextual, procedural and distributive. The framework was originally developed for analyzing equity under Payment for Ecosystem Services (PES) schemes but has been applied to REDD+ interventions, building on the notion that carbon storage is an environmental service, conferring REDD+ schemes many similarities with other PES initiatives (Schroeder and McDermott, 2014). This paper focuses mainly on contextual aspects of equity that condition the other two dimensions, and distributive aspects that represent the outcome (Fig. 2). Procedural aspects, such as obtaining free, prior and informed consent (FPIC) by communities at the outset and community representation in the project, are included only in terms of how they are conditioned by context and influence distribution.

Equity can be measured in many ways and with reference to different contexts, which implies that attention to contextual equity is both important and challenging. In this paper, contextual dimensions of equity refer to the "pre-existing conditions that influence the ability of various actors in REDD+, particularly local communities, to participate in and benefit from REDD+" (Visseren-Hamakers et al., 2012, p. 649). Contextual equity takes into account the uneven playing field created by the pre-existing social, economic and political conditions under which people engage in and benefit from, resource distributions; thereby limiting or enabling their capacity for both. The distributive dimension of equity entails the economic distribution of costs, risks and benefits among pre-existing tenure right holders and resource users. In the REDD+ debate, distributive equity pits two divergent schools of thought against each other: the market economists and the rights-based advocates. The market economists argue that REDD+ should be pursued cost-efficiently through market-based mechanisms. They argue against carbon rights and instead advocate carbon easements as compensation by

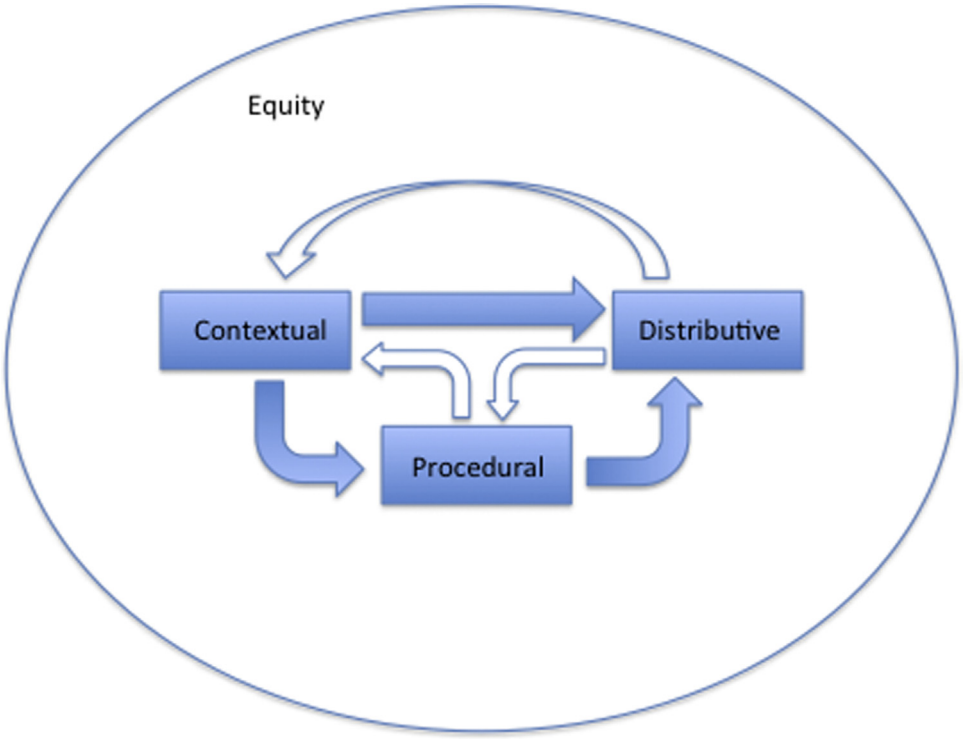

Fig. 2. The three core dimensions of equity identified from review of the justice literature by McDermott et al. (2013) and their main interactions in the context of the present study. Shaded arrows show immediate causal influence, un-shaded arrows show feedbacks that may generate change over time.

investors in REDD+ to land owners, largely ignoring people who do not own land (Karsenty et al., 2014). They ask questions like 'must all climate researchers also be responsible for analyzing all underlying social issues?" (Ribot, 2014:32). By contrast, rights-based advocates emphasize a "pro poor" REDD+ that not only compensates foregone benefits, but also improves the livelihoods of the rural poor, particularly those adversely affected by such projects. They recognize wealth disparities, as well as the existence of insecure and unclear tenure and advocate for a mechanism that takes cognizance of these disparities in its dispensation of benefits, while advocating for governments to move ahead and make tenure clear and secure (Brown et al., 2008; Cotula and Mayers, 2009). Procedural equity, links tenure rights with other governance aspects, particularly under the rights-based school of thought. Procedural equity entails aspects of community participation in REDD+ project-level activities, aspects of FPIC agreements, transparency of forest carbon revenue flow and access to conflict resolution mechanisms (Lawlor et al., 2010; Visseren-Hamakers et al., 2012). Procedure may be a tool for influencing distributive outcomes, to address rights-based disparity, ultimately generating feedbacks that shift contextual equity over time (McDermott et al., 2013).

4. Results

4.1. Distribution of benefits

The results on distributive equity are presented in relation to equity at the project level, and then at the community level.

4.1.1. Project level

At the project distribution level, revenue from the sale of carbon credits is distributed between the project implementer, ranch owners, and the communities in the settlement areas. The principle behind the distribution was simply referred to as a "one third ratio" by community respondents and project officials, suggesting that approximately equal proportions of revenue were distributed to the ranch owners, the project and the communities (Bernard et al., 2014; Project official 1. personal communication, 12th March 2014). In practice, the revenue was distributed according to a sequential logic that led to the land owners being paid first, then project costs were deducted, and the remainder was available for distribution to local communities.

The ranch owners had signed 30-year contractual agreements entitling them to a third of the revenue from sales of carbon credits. These agreements are similar to conservation easements—they give non-consumptive rights, in this case carbon, otherwise held by the landowner, to the project implementer in exchange for defined payments (Bernard et al., 2014). After deducting the ranch owner allocation, the project then deducted costs associated with the production of carbon credits and wider aims of wildlife conservation, including payment of forest and wildlife guards employed by the project, costs for monitoring carbon, biodiversity and livelihoods, and other staff costs. The communities then received the remaining revenue, making them residual claimants of the carbon monies. Unlike the ranch owners, the communities did not have legally binding agreements with the project, indicating the proportion of revenue they must receive, although they had publicly discussed and agreed to participate in the project, based upon the principle of free prior and informed consent (FPIC).

The resulting distribution of revenue (based on the sale of carbon in 2010 and 2011) saw project costs amounting to more than half of the carbon revenue, while communities (smallholders) received less than one sixth, and the ranch owners their guaranteed one third share of the total revenue (Fig. 3).

Project staff were aware that the proposed one-third benefit-sharing ratio was not always realized, and attributed this to low carbon prices and an inability to sell all the credits generated:

> *"So far we have sold 1.2 million tons of carbon. The prices are not so good; (. . .). We have not managed to sell all volumes of carbon produced; we actually sell an average of 300,000 to 400,000 tons*

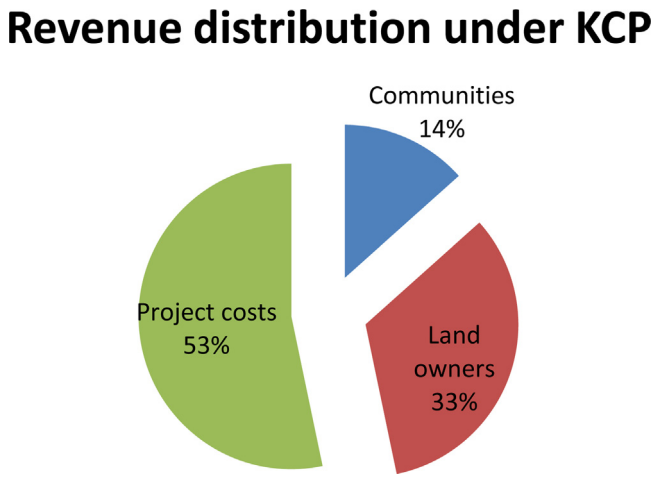

Fig. 3. Average distribution of revenues from carbon sale in 2010 and 2011. Source: KCRP financial data.

per year- because we don't want to sell them when the prices are too low. Effectively, we cannot implement the one-third ratio of benefit sharing at the moment because the money is not enough. When the money comes. . .we prioritize. . . the project has to keep running, so we deduct actual costs first, which include the costs of about 365 [400] employees, costs for annual monitoring and verification, etc. Then the landowners must receive one third of the money, because it is contractual. The remainder, which is usually less than one third, goes to the community. But this is not going to be like this for long, as we are looking at better carbon prices in the future, (. . .), as well as expanding the project to include more ranches in phase III. . ." Project official, 12th March 2014.

4.1.2. Community level

The proportion of the revenue going towards the communities (14%) was divided equally between the five administrative locations in which the project operated: each was allocated USD 50,000 in 2010 and 85,000 in 2011, i.e., a total of USD 135,000 over the two year period. Considering that the population of the locations as per the 2009 census (GoK, 2009a) ranges from 9000 for Marungu to 14,000 in Mwatate and Mwachabo, this gives average annual revenue of USD 5–8 per household. As this would be insignificant if distributed per household, funds were disbursed by WWCT with the help of LCCs and CBOs, to communal projects such as construction of water catchment areas, classrooms, medical clinics or bursaries to cover students' school fees. The limitations in the extent to which community based organisations have led to local empowerment in Kenya in the context of revenue distribution from forest management has been explored elsewhere (Chomba et al., 2015).

The one-third of the revenue distributed to the landowners was divided between them on the basis of carbon credits generated from their ranches. For instance, each landowner received between US$ 18,402 and 73,293 in 2011 and 2012 as carbon revenue. PCs and DACs would then share the revenue among their shareholders (with a maximum of 50 shareholders for PCs, and a big range in numbers of shares in the DACs). Some PCs gave each shareholder an equal amount of revenue irrespective of the number of shares held, while others issued dividends based on the number of shares each member held.

DACs are communal ranches with no legally defined maximum shareholding. Instead, registered members had bought variable numbers of shares since their formation in 1960s and 1970s. There was a relatively wide distribution of membership and shares in DACs among community members. Although DAC membership represented one way in which community members got direct cash benefit from the project, not all residents had shares. According to our survey results from the two locations, almost half (46.7%) of the sampled population in Kasigau location had shares in DACs, while this was less than one fifth (16.4%) in Marungu location. The mean number of shares per household across the two locations was 58, but the distribution was highly skewed with most households having between 5 and 30 shares, while a few individuals had more than 2000. Carbon revenue received by DACs was partly used to cover costs for managing the DACs, and the rest was distributed as dividends to the shareholders. In a majority of the DACs, dividends issued were proportional to the number of shares held by each person or household. They were paid out at Ksh 10 (approximately US $ 0.12 in July 2013) in Kasigau ranch and Ksh 100 (approximately US$ 1.12 in July 2013) in Maungu ranch.

The revenue from the project implied that shares in DACs became a potentially lucrative investment. All DAC leaders indicated a growing interest among non-shareholders in joining DACs since the onset of the project. Yet, DACs, which operated on internally formulated constitutions and regulations, selectively allowed new members to join, while some froze issuing of new shares and membership altogether. Interview respondents associated these restrictions with perceived limits to income from carbon and the unwillingness to share a modest pot amongst a high number of willing newcomers. Thus although DACs did not have a legal restriction on membership like private companies or partnerships, they were, in practice, limiting new entrants.

Overall, the benefits received and costs borne are disproportionately spread across different groups. The big winners in the carbon revenue distribution model were the private land owners who were guaranteed to receive their share of a third of all carbon proceeds, allocated according to the contribution of carbon from their ranches. In addition, some of them were also shareholders in DACs and PCs, increasing their overall share of the carbon revenue. For instance, a clerk in the Taita Taveta County council upon independence in 1963 had his own (family) ranch; and was also the chairman of at least one PC and one DAC. He was named as the majority[3] shareholder in the PC and DAC, besides having shares in other ranches. Other people, who had held high public office at one time or another, had used their political and financial capital to gain private land and/or buy shares. They were also major beneficiaries of carbon revenue. Owning a large number of shares also implied tenure in that, should the parcels of land be subdivided in future, each member would receive a size proportionate to his or her shares. On the other hand, the big losers were the smallholder farmers who bore the opportunity cost of avoiding deforestation (Fischer et al., 2011), and received very modest benefits per capita. They also bore the brunt of the cumulative failure of the forest carbon markets because of coming last in the sequential payment process, resulting in them receiving only 14% of the revenue, far less than the 33% share anticipated at the outset.

4.2. Evolution of present day tenure

"Although events occurred in the past, we live their consequences today and must act upon them now. What has already occurred is in front of us, because that is where it can be corrected"

[3] Most ranches revealed their overall share capital but they were unwilling to reveal how shares were distributed among members as they argued that these details were private and would cause discontent among members if they were made public. However a majority of the small shareholders did not have reservations in revealing their own number of shares and dividends received through the household survey.

A saying by the Bolivian Cumbales, J. Rappaport 1998 in Bender and Winer (2001, p. 27).

In the previous section, we described how the present benefit distribution is highly dependent on tenure arrangements and favored a few landowners. In this section, we outline how the present tenure arrangements came to be, from pre-colonial, to colonial and post-colonial periods, with specific emphasis on land dispossession and agrarian segregation by the colonial government, post-colonial land consolidation and formation of ranches, until the collapse of the ranches and the entry of the carbon project.

Before the colonial period, tenure arrangements in the study area, as in much of the country, were characterized by various forms of communal system, governed through a mix of customary and individual tenure systems (Njogu, 2004; Rutten, 1997). The Wataita lived atop three large hills, Dabida, Sagalla and Kasigau, where the climate was favorable for farming. They had settlement areas and grazing and hunting areas. Land used for settlement, which was mainly in the hills, was held individually through kinship ties, i.e., once someone arrived and made a claim over a piece of land, no one else would make claims over the same land (Njogu, 2004). The plains were utilized communally for seasonal grazing and hunting, particularly during drought. In non-drought seasons, they avoided the plains, in order to keep away from wild animals and other ethnic groups such as the Maasai and Kamba who occasionally raided their cattle. However, both hills and plains were seen as indivisible parts of their territory (Njogu, 2004). Consequently, land availability and access was not a problem, with vast areas, particularly in the plains, remaining uninhabited (KLC, 1934; Nazzarro, 1974).

The transition from communal to other forms of private property began with the colonial[4] administration (1895–1963). Through various colonial land policies, the land tenure system changed dramatically within a relatively short period of time. The first set of policies were the crown land ordinances of 1901–1902, which declared land in Kenya as "crown land" implying that it was governed by the Crown. The ordinance gave authority to the commissioner of the British East Africa protectorate to alienate, sell and/or lease lands, to individuals or companies, for commercialization. Consequently, Africans were evicted from their customary lands and confined in designated native reserves. In Taita, two main native reserves, Dabida and Sagalla were created. Later, more lands were alienated and declared protected areas for wildlife conservation (KLC, 1934).

In Taita, land alienated by the colonial government was leased to various white-owned companies for establishing large-scale sisal and coffee farms in the late 1920s and early 1930s. These included the Taita concessions, Wundanyi coffee estate, Voi sisal estate and Mwatate sisal estates, some of which still exist, albeit under different ownership as indicated in Fig. 1. Further, colonial reports indicated that land alienation by the Commissioner was supposed to be restricted to lands not occupied by Africans (KLC, 1934), but this rule was sometimes contravened. Widespread evictions were reported in the evidence produced by both natives and non-natives to the Kenya Land Commission, whereas areas used on a seasonal basis, such as the vast plains for hunting by the Wataita, were assumed to be 'idle lands' and alienated (KLC, 1934, pg. 2721–2725). The colonial administration also reserved hunting and wildlife conservation areas, which were set aside for an eventual national park. The result of these policies and actions severely altered land access among the natives as colonial records indicate:

> "*Taita farming systems were dramatically altered. . ..through the native reserves, the Wataita were restricted to 1-2 square miles around their hills, while large areas in the plains and hills were converted to large-scale sisal and coffee plantations and set aside for an eventual national park*" (Mosoon, 1984, pg. 68)[5]

Similar land alienations and concentration of Africans into native reserves were occurring elsewhere across the country. Key among them was the establishment of the white highlands by the colony[6] (Kanyinga, 2009). These were areas covering over 3 million ha, mainly in high potential areas, reserved for European settlement (Kanyinga, 2009). Land-based grievances among Africans started simmering. The colonial government responded through the establishment of the Carter/Kenya Land Commission in 1932–1933 (KLC, 1932). The commission, with mainly white commissioners, was subject to concerns over its impartiality raised among both natives and whites, but was tasked with adjudication of African land grievances and determining native land rights. Specifically in Taita, the commission was presented with evidence of native displacement through the creation of large-scale estates such as Wundanyi Estates and Teita (sic) concessions as well as the two national parks (KLC, 1934: 2722). The commission found human overcrowding in areas such as the Dabida native reserves; and restriction of natives to lands that were too small to sustain future economic production (KLC, 1934:319). In light of this, the commission's recommendations in Taita District included the return of small parcels such as the Wundayi estates to the natives and the extension of native reserves to include areas in the estates that had been cultivated by natives or other unalienated lands (KLC, 1934: pg. 321–326).

While marginally expanding land areas available to the Wataita, the commission's recommendations also served to entrench the existence of the native reserves while maintaining large parcels occupied by whites. Native grievances persisted. Various forms of protests and channeling of grievances through local political groupings and white missionaries in Taita accompanied demands for return of native land:

> "*..some natives came to see me; and asked me to convey to you that they still wanted their land North of Voi Taveta road returned to them, they at this time disassociate themselves with the Kishamba natives who want to cause trouble and embarrass the government. . . These people were the most faithful and reliable during the [first] world war and were instrumental in stopping the Germans advance to Voi and Maungu. This is their reward!! A good example of British gratitude in Kenya*" Rev Verbi letter to Taita DC, October 16th 1939[7].

Socio-economic and political divisions among the natives also arose; as some pursued land grievances through loyalty and others through resistance. The colonial administration used land to reward those whom they found loyal, and bypassed those who resisted. Eventually, this produced a pattern of landed and landless among native populations as the letter from a white missionary, addressed to the district colonial administrator in 1939 indicated:

[4] We use colonial administration to the period 1895–1963, which covers all periods of British rule in Kenya both as a protectorate under the British East Africa Company and as a colony as we are more concerned with establishment of policies, exploitation and unequal power relationships between the colonizers and their subjects rather than placing emphasis on subjacent dichotomies of the colonial administration.

[5] One of the early research reports done on colonial tenure reforms in Taita found at the Kenya National Archives.

[6] Although the colonial period in Kenya started in 1895 when it fell under British East African protectorate, the country officially became a colony in 1920. A 10-mile coastal strip leased to the Sultan of Zanzibar remained a protectorate until Kenya's independence in 1963.

[7] Archival records of Rev Verbi, a white missionary intervening on land injustices, Archival file no. DC/TTA/3/8/18.

"*During the last few years, I have noticed that there is becoming a class of landed gentry among the natives, which no doubt is a sign of progress. However, from what I know of the improvidence of the natives in Teita [sic], I can see that in less than 50 years' time probably all the land will be owned by some 100 landed gentry*." Verbi, 1939.

In the rest of the country, and particularly in the central highlands of Kenya, land grievances metamorphosed into liberation movements such as the Mau Mau movement (1952–1960) (Kanyinga, 2009). As the pressure from land-related grievances built up, the colonial administration responded again with yet another nationwide programme, the Swynnerton Plan (1954–1959). This was an ambitious land consolidation and adjudication plan that divided the country into high potential versus low potential, large-scale farms versus smallholder farms and landholders versus the landless. The plan opened up the era of land commodification, or what Shipton (2009) refers to as "land mortgaging" through land titling, which enabled access to credit with the land titles as collateral. Whereas the plan's stated aims included increasing crop production in the existing land holdings, its major outcome, like the Carter Land Commission, was maintaining colonial boundaries such that the natives kept the small parcels of land and the white farmers kept the large parcels, over which production was then supposed to increase (Kanyinga, 1998, 2009; Kariuki, 2004).

Kenya gained independence in 1963. The immediate post-colonial government's promises included returning lands that had been dispossessed from Africans by the colonial administration (Kanyinga, 2009). The Lawrence Report (1966), borrowing from the Swynnerton Plan, advised that land registration in communal areas should be based on group rather than individual ownership. This report was enacted through the Group Ranch Representatives Act of 1968. A group ranch was defined as a livestock production system, based on kinship ties, traditional land rights such as tribe, clan, family or other group (Mwangi, 2007; Ng'ethe, 1992). Consequently, ranches were established in the 1960s and 1970s mainly on trust lands[8], i.e., lands that were held on fiduciary basis, i.e., on behalf of the local communities by the local councils as trustees. After independence, trust lands in Taita included former native reserves and vast areas in the plains where the natives had been restricted from access during colonial times. As such, there were no firm claims to land ownership in these areas.

According to interviews conducted with key leaders who were involved in the formation and registration of ranches, Taita ranches were established for the Wataita in order to help secure their lands against pressure from incoming white settlers displaced from elsewhere in the country after independence, as well from as other ethnic groups keen to settle in the area.

"After independence, some of local leaders from the local councils came together to see how to contain potential influx of white settlers who had been displaced elsewhere in the country. . .they were eying the vast former crown lands. . .there were also other communities gradually moving into Taita. . .we agreed to form group ranches in order to secure lands for the Wataita. . ." Leader 1: former Taita Taveta county council clerk 17th April 2014.

The elites who helped the rest of the community "secure" their lands consisted of senior officials in the district and county council, and local politicians. Based on present land and group ranch ownership presented in Table 1, it appears that these elites took advantage of the laxity in land claims and the ongoing land adjudication process and granted themselves and their cronies land leases either as individuals, partners or shareholders in private companies. For instance, through records from the County lands office, we established that the former clerk interviewed was the sole owner of one of the ranches; while the other privately owned ranches were mostly owned by other political elites. A few ranches were reserved for the rest of the community through DACs, in which members had to buy shares in the companies. The formation of group ranches, therefore, facilitated elite capture of land, directly or indirectly through purchase of shares in the companies.

An account of the Wataita ranch formation (Smith, 2008; p. 49) underpins the origin of elite capture:

"*while the colonial government strongly supported land consolidation in Kikuyu land in response to mau mau insurgency, in Taita, land consolidation was pushed by educated elites in the early post-colonial period.*"

Ownership of land in the form of ranches enabled elites to access government loans, as well as receive other incentives such as water troughs and cattle dips for disease inoculation provided by the Ministry of Livestock, which was the purpose of establishing ranches in pastoral areas (Ng'ethe 1992; Veit, 2011).

A majority of the community members joined neither DACs nor privately owned ranches. FGDs conducted with shareholders and non-shareholders revealed a number of reasons for the lock out: (i) most people were not aware of the importance of registration and assumed that even without registration, communal lands still belonged to them; (ii) legal limitation of memberships in various entities, such as partnerships (two people), private companies (l50 people). These were also covertly formed by friends, families, or clans, excluding others; (iii) lack of capital and reluctance to sell or exchange their cows for ranch shares—Taita District Development Plan of 1974–1978 indicated that each share was equivalent to one cow or Ksh. 20; (iv) exclusion of immigrants (e.g., according to the Wataita, the Waduruma were not entitled to claim land in Taita, and (v) corruption through the adjudication process where claimants were removed from registers.

The land adjudication and consolidation policies and processes initiated by the post-colonial government, and particularly the formation of the ranches, produced a few elite people with extensive tracts of land in the ranches, and a majority of landless people and smallholders with land holdings far too small for any viable economic activity. The district development plan (1974–1978) summed it up:

"*After land consolidation. . .approximately 30% of the people in the district are either legally landless or on sub-economic units. The average farm size is extremely small and 63% of the total farms in the upper areas are less than 1.5 acres*." Taita Taveta District Development Plan 1974–1978.

Over the years, the ranches experienced several problems that led to their eventual collapse. These included environmental problems such as fires and drought, human-wildlife conflict and mismanagement (Njogu, 2006). However, the most critical problem was the termination of the government-supported and internationally funded, Kenya Livestock Development Programme, resulting in drying up of funds and extension services provided to ranches (Ng'ethe, 1992: Njogu, 2006). The loans that the ranches had acquired through local banking sectors could not be repaid, which left most ranches in debt (Ng'ethe, 1992). Some ranches

[8] Trust lands are now called community lands under the constitution of 2010. Although the subdivision of trust lands into group ranches was recognized and mapped at the county (former district) level in Taita Taveta, central government land registry and maps availed to the main author by the Kenya Institute of Survey and mapping indicated that the vast areas were undivided trusts lands since independence, indicating an incomplete process of subdivision and mapping between the local and central land registries, potentially harboring legal and practical disputes.

ceased ranching activities altogether and leased their lands to pastoralists of Somali decent. Others operated on credit while servicing substantial debt. The ranch owners were, therefore, receptive to the idea of a carbon project, which would help them generate income from their lands.

Interview respondents and focus group discussions also revealed displacement of Waduruma from the privately owned Rukinga ranch before the project started. The Waduruma, who were characterized by the project as poor, landless, polygamists, immigrants who cleared land aggressively and snared wildlife for food, were displaced a few years before the onset of the project:

> "*The other community within the project area is largely made up of Duruma peoples, from the Coast of Kenya. The Duruma are one of the poorest tribes in Kenya. . .local lore has it that they first came to the project area in the early 1990s when they were promised land by a local Taita politician who had taken a Duruma wife in return for their votes in local elections. The only problem was he promised them land he did not own that is within the project area. . ..with single parent families that would clear the land aggressively. . .and teenage males who would snare [wildlife] for food..*" (KCRP, 2011, pg. 24).

Our interviews indicated that the same politician, who lured some of the Waduruma into Taita in order to gain their votes, was the former clerk to the council that had been part of the elite group involved in the formation of group ranches.

Left legally landless during the formation of the ranches, a majority of the Waduruma had settled in the privately owned Rukinga ranch and lived there for decades. After the present owner bought the ranch in the late 1990s, the Waduruma were unwelcome and finally evicted in 2002. A focus group discussion held with the displaced Waduruma referred to violence in the evictions, as one of the participants narrated:

> *"In late 2001 we were told we had to move from [Rukinga ranch] by our then Chiefs–Rowland Mwamboga, assistant Chief Ngati of Marungu and Chief Kizaka of Kasigau. . .. . . We were told that Rukinga was under a different owner (Mike Korchinksy) and not Meyers whom we had known all along. . .. We were also told the new owner was not interested in livestock, but conserving wild animals. The eviction notice was abrupt and took us by surprise. . ..In 2002, we were violently evicted, all our possessions, including food grains, animals and clothes were thrown out of our houses, which were immediately torched by fire. We were more than 500 households in total. We organized ourselves in groups and hired lorries to salvage what we could, we put our animals, food and beddings in the lorries. . .whatever was left behind was lost in fire. . .We hate to be reminded and to talk about it. . .."* Narrator 1, FGD, Dimbwini area 1, April 2014.

The respondents indicated they attempted but failed in legal redress to challenge the evictions from land that was now private property. Those who could afford land elsewhere went and bought it. Others, such as the group we held discussions with in the Dimbwini area, were still squatters on portions of government land, which they were attempting to secure titles over.

5. Discussion and conclusions

5.1. Discussion

Our findings indicate that within the REDD+ project, land tenure was critical in determining distribution of benefits, which was complicated by the many different forms of tenure in the project area. The main project benefits were derived from revenue from sale of carbon credits, which were distributed amongst the project itself, landowners, and surrounding communities. The land owners received their contractual one-third share of the revenue. The project then deducted its costs, which in 2011 and 2012 exceeded half the total revenue, and the communities received what was left, amounting to less than one sixth of total revenue. This diverges markedly from the one-third share for each constituent group originally intended albeit that the project implementation also provided employment for an estimated 400 people, many from the local communities.

Ranch ownership by individuals and private companies, ensured that these landowners received much greater income from carbon than the rest of the community. Ranch ownership comprised five that were owned individually (one or two persons); four by private companies limited to 50 shareholders and; four by Directed Agricultural Companies (DACs) with membership based on widespread share ownership. Some community members with shares in the DACs received direct cash benefits in the form of dividends, but the proportion of people owning shares varied widely amongst communities from 16% to 47% with most only owning very few shares. The majority of local people benefited only from the revenue allocated to their community, but were negatively affected by the restrictions imposed by the project on access to land for cultivation, hunting, charcoal production and firewood collection. For the project to demonstrate additionality, these activities had to be stopped. Some authors point out the potential loss of revenues (usually for the poorest groups of rural communities in Sub Saharan Africa) associated with "locking up forests" under REDD+ projects, notably by restricting extraction of firewood and production of charcoal. This often results in displacing such activities elsewhere i.e. beyond the REDD+ project zone (Fisher et al., 2011).

Prior to the project, landowners did not use their land intensively, leasing it out for grazing at low returns, and so had no major disbenefit from the restrictions that the REDD+ project imposed. On the contrary, the project led to landowners, despite often being absentees, imposing greater control over their land, while "illegal squatters" were "peacefully removed" (WW, 2014). Project officials emphasised that some of the activities that communities engaged in, like charcoal burning, were illegal under Kenyan law. But charoal burning is actually allowed for in the charcoal regulations of 2009 (GoK, 2009b), which sought to legalize it, after many failed attempts at a total ban.

Analyzing the project through the lens of present tenure arrangements and the distribution of benefits clearly shows that equity concerns were taken into account in project design. In principle, residents of the settlement areas have no legal claim to any carbon revenue, because the project covers an area that mostly belongs to private ranch owners. Yet they do receive a modest proportion of carbon revenues (14% directly, plus flows from project implementation and share ownership in some ranches). The distributional principles chosen by the project conform to notions of equity and practicality with three main elements. First, the project recognizes that, the lack of equity in tenure arrangements that are the basis for revenue allocation, would not be tenable as a distributive mechanism without some modification. Present tenure arrangements favor a few private ranch owners and exclude the majority of poor smallholders in the area who bore the greatest costs. Without benefits, poor smallholders might not support the project and continue clearing land for farming and cutting trees for charcoal production. This would compromise the project's ability to demonstrate additionality of carbon storage (Minang and Noordwijk, 2013). Secondly, without demonstrating that they attempt to address the lack of legal rights to tenure and carbon benefits, the project would face problems in obtaining GOLD level certification by CCBA. Thirdly, for ethical reasons, because key people in the project believe it is just, although notions of justice have often been

found to differ amongst actors, and particularly amongst project implementers and local communities (He and Sikor, 2015).

Our tracing of the evolution of land tenure, revealed how the present arrangements are the result of a historical process of dispossession. Through colonial land policies, the Wataita were dispossessed of their customary lands, which were turned into sisal and coffee estates and the rest reserved as national parks. Other colonial land use policies, such as the Swynnerton Plan, presided over an era of land commodification, titling and mortgaging in exchange for loans to increase land productivity (Kanyinga, 2009; Shipton, 2009). Post-colonial policies and political actors mirrored the colonial ones, characterized by primitive land grabbing by political elites, turning land that was supposed to revert to communities upon independence into private and partnership ranch holdings as evident in the Ndung'u[9] report. The dispossessions were consistent with others witnessed in Taita-Taveta county, coastal region, and other parts of Kenya (Chomba et al., 2014; Kanyinga 1998; Mwangi, 2007a; Rutten, 1997).

The point in time of particular relevance to this discourse, was the formation of group ranches in Taita, where trust lands were subdivided in the name of securing communal tenure, only to end up in the hands of a few elite families. This process was legally facilitated under the land adjudication Act (CAP 287 of 1968, revised in 2010) which allowed trust lands to be adjudicated to claimants and non-claimants as either individuals or groups (GoK, 1968). Then the Group Representative Act CAP 287 of 1970 revised in 2012, adjudicated land under group ownership where the group was defined as a tribe, clan, section, family or other group of persons (GoK, 1970). The two laws, enabled individuals, groups and companies to register as legal claimants of former communal (trust) lands. In areas like Taita, where there were vast lands with no firm communal claims, this appears to have created the legal and practical opportunity for elite capture. These laws, which are awaiting repeal upon the passing of the new community land bill (2014), as stipulated under Kenya's 2010 constitution, have facilitated huge inequalities and loss of property rights through individualization of former communal property.

This process is not confined to Taita but has played out in different ways in other parts of Kenya (Hughes, 2006; Mwangi, 2007b; Rutten, 1997). Mwangi (2007b) argues that the transition from collective to individual rights indicates a rational response aimed at securing land claims against internal and external aggressors by local communities. In Taita however, the elite captured land rights at the onset of transition from collective property (trust lands), where ownership was transferred to individuals and various forms of companies, thereby excluding other Wataita.

The overall result of land consolidation and property rights transition was exclusion of the majority of poorer households from legal ownership of land. Group ranches have also been found to exclude other marginalized groups such as women and young people (Rutten, 1997). Minor ethnic groups such as the Waduruma, were labelled as immigrants and illegal squatters, and consequently evicted by the colonial government, ignored by the post-colonial governments and "peaceably removed" by private land owners to create a wildlife sanctuary in the project area, just before the onset of the project (WW, 2014a).

[9] The Ndung'u commission of inquiry into illegal/irregular allocations of public land was established in 2003, chaired by Paul Ndung'u, after whom the commission and its widely famous report came to be known. The Ndung'u report released in 2004 found extensive evidence of land grabbing by public officials in, among other areas, settlement schemes and trust lands, and recommended revocation of the same. However, the findings and recommendations of the commission are yet to be properly implemented due to vested interests among the political elites, who are also named as key beneficiaries.

It is upon these very uneven tenure arrangements that the project was overlaid. Although it attempted to address lack of equity through its benefit distribution mechanism, to achieve equity, we argue, the project would have needed to adopt a more re-distributive model to offset the accumulated inequality in land tenure. It also needed to show greater diligence in ensuring that smallholders received their intended share of benefits.

In relation to the wider REDD+ debate, our findings support those of other scholars who emphasize the critical role that tenure arrangements play in determining equity with respect to access to REDD+ benefits (Cotula and Mayers, 2009; Larson, 2011; Larson et al., 2013; Naughton-Treves and Wendland, 2014). Several studies assert that tenure arrangements are critical for the realization of social and livelihood outcomes, specifically because they determine who can benefit from what resources, under what conditions and for how long (Corbera et al., 2011; Duchelle et al., 2014; Murdiyarso et al., 2012; Sunderlin et al., 2014). What emerges from these analyses is that, clarity and security of tenure are key to effective implementation of REDD+ and for enabling access to benefits.

Our present analysis emphasizes the need to go beyond clarification of existing tenure that has emerged from previous studies, to consider the equity inherent in the present mosaic of land ownership and how it came about (See also Krause and Loft, 2013). In such cases, tenure clarity and security is no guarantee of equity when land is concentrated in the hands of a few and carbon rights are linked to ownership of land. Under such circumstances, formalization of tenure rights, without addressing underlying inequality in land ownership, will not result in equitable distribution of REDD+ benefits, but rather a further reinforcing of inequality. Other scholars have also challenged the process of formalizing land tenure, and argue that the process neither leads to security of tenure nor the assumed economic benefits, particularly in Africa (Bromley, 2009; Shipton, 2009). Often, the process of formalizing tenure results in a transfer of land from common ownership by local communities to powerful individuals (Mwangi, 2007; Peluso and Lund, 2011).

This focus on tenure clarity and security arguably reflects what has been coined as neoliberal thinking, in which land privatization and titling is seen as the most effective means of securing capital, promoting economic growth, and reducing poverty (Deininger 2003; De Soto, 2003). Yet these assertions are not new; colonial and post-colonial land reforms in most parts of Africa have focused on land privatization and titling, supposedly to ensure tenure clarity, security and enabling of capital acquisition by using land titles as collateral (Simbizi et al., 2014; Shipton, 2009). The outcomes of these processes include marginalization of people based on gender, class and ethnicity, while deepening social conflicts (Kariuki 2004; Peters, 2004). Our present analysis, centers on these issues of colonial and post-colonial social differentiation, resulting from land grabbing, and primitive capital accumulation, that are pertinent to many countries across Africa (Cousins et al., 1992; Moore, 2001). Disguised as agrarian reform and formalization of tenure, these processes lead to benefits for the minority at the expense of the majority in the society, as demonstrated here in the context of REDD+. We refer to this as the roots of inequity, which are akin to roots of starvation (Sen, 1983) or roots of vulnerability (Ribot, 2014).

5.2. Conclusions

We found in the Kasigau case, that while REDD+ project implementers sought to address equity in designing their benefit sharing mechanism, in practice they fell short of expectations. This was both because the historical context predetermined very unequal land ownership, and because of preferential allocation of benefit flows to landowners and project implementation, at the expense of the wider community. The additional value that REDD+ brought to

land and vegetation in the area, created the conditions for landowners to re-assert their control over their land at the expense of people in local communities, who had previously benefited from squatting, farming, hunting, firewood collection and charcoal production.

There is a clear tension in practical implementation of REDD+ initiatives where historical injustices have led to dispossessions and disparities in land ownership. Starting from very unequal land distribution, it is unlikely that benefit flows tied to carbon storage on specific land areas, will be large enough, within any feasible distribution model, to significantly affect overall equity. Measures needed to address historical dispossessions and disparities in land tenure are the remit of governments, as the recommendations of the Ndung'u Commission and the recent establishment of the National Land Commission in Kenya attest. REDD+ initiatives, however, need to go further than working only to clarify and secure land tenure, if they are to create incentives for government to address equity. The implication is that social safeguards associated with REDD+ need to be specific with respect to land tenure where schemes extend over private as well as public land.

The fundamental constraint imposed by the size of benefit flows on equitable outcomes, is further aggravated by the tendency for implementation of REDD+ to tighten control over land and access to resources derived from it, by whoever owns it. For a REDD+ initiative to get off the ground, landowners need to take part, but in doing so they reinforce the existing land tenure arrangement. In the Kasigau case, the wider community, including those with no tenure over land, did receive some benefit from REDD+. So the key questions become, how large these benefits should be to adequately address equity, and whose perspective on equity determines this? It is well established that what project implementers and other stakeholders consider equitable may differ from those of local communities. This makes it critical for REDD+ projects to frame equity transparently and through a participatory process that includes a multiplicity of voices. Given the nature of equity, it is unlikely there will be consensus on whether or not it has been achieved, requiring that policy-makers demand of project implementers and certifiers/evaluators that they give voice to the weaker parties; those with less resources and opportunities to make their voices heard. This, in and of itself, could be a route to realizing greater equity.

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